Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_

HW#40H: Congruent Triangles SSS, SAS, ASA

Honors Geometry

Due Date: Monday, Dec. 8th, 2014

**Failure to show all work and write in complete sentences will result in LaSalle!**

For #1- 3, determine if the two triangles are congruent. If so, write a congruency statement and identify what postulate is needed to prove the congruency.

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| --- | --- | --- |
| 1) | 2) | 3) |
| 4) Use the given coordinates to determine if Δ*ABC* ≅Δ*DEF. You must use the distance formula!*  *A*(1, 2), *B*(4, –3), *C*(2, 5), *D*(4, 7), *E*(7, 2), *F*(5, 10) | | |

For #6-14, determine if the two triangles are congruent. If so, write a congruency statement and identify what postulate is needed to prove congruency.

|  |  |  |
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| 6) | 7) | 8) |
| 9) | 10) | 11) |
| 12) Δ*MAE*, Δ*TAE* | 13) *DKA*, Δ*TKS* | 14) Δ*JRM*, Δ*JTM* |
| 11) Complete the proof.  **GIVEN:** ≅,≅  *AD*  *BC*  *CD*  *AB*  **PROVE:** Δ*ABC* ≅Δ*CDA* | | |
| 12) Complete the proof.  **GIVEN:** ***,*** *D* is the midpoint of AC  **PROVE:** Δ*AB*D ≅ Δ*CBD* | | |
| 13) Complete the proof.  **GIVEN:** *B* is the midpoint of .  *AE*  *B* is the midpoint of .  *CD*  **PROVE:** Δ*ABD* ≅ Δ*EBC* | | |
| 14) Complete the proof.  *AB*  *CD*    **GIVEN:** || ,  *CD*  *AB*  **PROVE:** Δ*ABC* ≅ Δ*DCB* | | |
| 15) | | |

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| 16) Find the radius of a circle, given that the center is at (2, –3) and the point  (–1, –2) lies on the circle. | 17) What is the length of the longest side of the triangle whose vertices have coordinates A(-1, -2), B(4,2), and C (-2,4)? |
| 18) Simplify: | 19) a. Simplify: .  b. Simplify: . |
| 20) What is the value of *b* in the expression below:  a.  b. | 21) Write the equation of the line that passes through the points (-5,2) and (0,-2)? |
| 22) Simplify: | 23) **Error Analysis.** Describe and correct the mistake made in simplifying the expression below: |